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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,619	01/18/2002	John Harold Magerlein	YOR920010249US1	3043

7590 09/15/2003

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EXAMINER

PERT, EVAN T

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/052,619	MAGERLEIN ET AL.	
	Examiner	Art Unit	
	Evan Pert	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/18/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0402</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig. 3 shows conductive layer 22 extending laterally over the surface of dielectric 14 wherein this layer is "removed" with "the result being depicted in Figure 3" [p. 5, lines 31-32].

Correction and/or explanation are required.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference "34" appearing at lines 10 and 35 of page 5, and instead seem to include "39" not mentioned in the specification.

To obviate this objection, the "34" occurring at p. 5 twice could be changed to be --39-- to agree with the "metal tip 39" of Fig. 3.

Claim Objections

3. Claims 4-6 and 15-17 are objected to because of the format: "material : thickness". Applicant should amend these claims to definitively recite the claimed layers' thickness and composition without using a colon. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

"Microdendritic"

The claims recite "microdendritic" features and pad arrays. The term "microdendritic" in claims 1-22 is a relative term that renders the claims indefinite. The term "microdendritic" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How does "microdendritic" differ from "dendritic" cited in applicant's prior art?

What specific steps are required to make "microdendritic features"? Applicant writes how to make "microdendritic features" in one sentence: "Different plating solution concentrations, current densities, and/or ultrasonic agitation levels will be used to achieve the dendritic Pd triple layer" [p. 5, lines 27-28].

The examiner contemplates an enablement or written description rejection for applicant's failure to disclose how to make "microdendritic features", yet the examiner refrains because the examiner does not even understand any well-defined scope of "microdendritic."

Explanation and/or citation of appropriate prior art are required.

Lack of Antecedent Basis

5. Claim 2 recites "the pad surface" in line 2. Yet, more than one "pad" is recited.

6. Claim 3 is confusing as to what a "seed" is. In view of claim 5, the "seed" is the copper 24, but the specification also seems to call the Ta a "seed" [p. 5, lines 14-15].

Explanation as to what constitutes the claimed "seed" layer is required.

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7. Claim 13 recites the limitation "the step" in line 1. There is insufficient antecedent basis for this limitation in the claim, which should be --a step--.

8. Claim 14 recites the limitation "the step" in line 1. There is insufficient antecedent basis for this limitation in the claim, which should be --a step--.

Furthermore, "the receptacle in the top surface of the carrier" at lines 2-3 of claim 14 lacks antecedent basis.

9. Claim 18 recites the limitation "the receptacles" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Allowable Subject Matter

10. Claims 1 and 12 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. Claims 2-11 and 13-22 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

It is assumed applicant will show prior art detailing the formation of "microdendritic" features, or will amend to recite "dendritic" features. Upon clarification of the confusion with respect to "microdendritic," the disclosure will be reconsidered for enablement.

Assuming applicant establishes that the disclosure is enabling by addressing the examiner's concern with the scope of "microdendritic," the subject matter of the claims is allowable because the prior art does not disclose a system and process for testing a semiconductor device particularly characterized by:

- a carrier having a multi-layer substrate having a plurality of receptacles that include microdendritic features, wherein
- a "receptacle", in the context of applicant's disclosure, is understood as meaning that a pad surface is recessed below a major surface of the carrier juxtaposed to a device chip being brought into contact with the "receptacle".

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,414,509, US 5,420,520, and US 5,137,461, assigned to applicant, are cited for teaching dendritic features on test pads for making temporary contact with a device chip for testing and burn-in purposes. None of the references teach or fairly suggest the claimed "receptacle" in the context of applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan Pert whose telephone number is 703-306-5689. The examiner can normally be reached on M-F (7:30AM-3:30 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 703-308-1233. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

ETP
August 29, 2003

A handwritten signature in black ink, appearing to read 'E. Pert', with a stylized flourish at the end.

**EVAN PERT
PRIMARY EXAMINER**